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Is There a Global Digital Labor Culture?

Marginalization of work, global inequalities, and coloniality

Abstract

Digital labor designates platform-based algorithm-mediated tasks performed by human users of websites and apps. It concerns on-demand services such as Uber, micro-work portals such as Amazon Mechanical Turk, as well as data extraction via connected devices or social media such as Facebook. Digital labor studies have so far mainly focused on US and Europe. A new breed of research projects aims to correct this bias by intersecting labor, media, post-colonial, and subaltern studies, and tackle developing and emerging countries where the rise of digital labor accompanies low rates of formal employment. Newly available evidence offers insights into dynamics of social exclusion and exploitation through the outsourcing of online tasks to non-Western countries. The last part of the article discusses the extent to which this vast click farm economy predicated on value and data transfer from the Global South to the North can be construed as a “neocolonial” system.

Since its first inception in the 2000s, the field of research known as digital labor studies has been expanding by focusing on topics such as value-extraction superseding traditional employer-employee relationships, modes of remuneration, and user rights in the digital platform economy. It has aimed to revamp international debates about the meaning of labor and its place in contemporary societies, in the face of rampant workforce casualization and the decline of traditional labor institutions. In a landmark publication, Tiziana Terranova characterizes digital labor as “free labor on the net” and lists activities falling under this description as “building Web sites, modifying software packages, reading and participating in mailing lists, and building virtual spaces” (2000: 33). The influential contribution of Trebor Scholz (2012) highlights the emergence of digital labor in a market setting where “intimate forms of human sociability are being rendered profitable” by tech giants. Thus the commodification of personal data and the harvesting of user-generated contents turn “value-producing activity that is based on sharing creative expression” into de facto unpaid labor. The underlying claim is that, if social coexistence is predicated on digital connectivity, “all of life is put to work, unfairly harnessing implicit participation for wild profits” (*ibid.*: 2). A more recent definition, carrying a vague taste of Debordian irony, states that: “What we call digital labor is the reduction of our “digital relationships” to a phase of the production process, the subsumption of the social under the merchant in the context of our technological usages” (Cardon & Casilli 2015: 13).

By placing emphasis on the transformation of the nature of value-adding activities, as well as on the reconfiguration of what counts as “working” time and place, these definitions insist on the blurring of boundaries between the public and the private domains in ICT-permeated societies. The focus thus moves away from previous research on high technology professionals, engineers, hackers, and formal employees of tech industries, to center on the modest and often unrecognized contribution of anonymous users, content providers, precarious temp workers, and unskilled click farm laborers. Several articles, edited books and monographs

examining these topics are more directly intended to update Marxist notions such as proletariat, surplus labor, and commodity fetishism by aligning them with the social media and digital platforms *Zeitgeist* (Dyer-Witheford, 2015; Fuchs, 2014b). Others point out the role of digital technologies in redefining labor markets and eroding workfare protections, thereby prompting the emergence of new occupational identities built upon precarity and risk-taking (Standing, 2011; Huws, 2014; Casilli 2016). Latest developments explore the place of human labor in on-demand platforms, online labor markets, crowdsourcing, software and telecommunication infrastructures, and process automation (Lehdonvirta & Mezier 2013; Kneese, Rosenblat & boyd 2014; Gray 2015).

Progressively, the exclusive focus on free labor gives way to new evidence showing that digital labor is actually a continuum of unpaid, micro-paid, and poorly paid “taskified” human activities—thus encompassing the kind of actions performed by users of participatory media as well as platform-based piecework. This view is in line with pre-existing approaches to human value-producing activities falling outside traditional workplaces. The invisible labor of women and of racialized disenfranchised groups (Federici, 1975; Davis 1997), audience labor in traditional media such as television and radio (Fuchs 2014a), immaterial labor within knowledge-intensive and participative cultural industries (Lazzarato & Negri 1991), “pre-sumption” performed by clients, customers and shoppers (Dujarier 2008; Ritzer & Jurgenson, 2010), all represent notable theoretical antecedents. To an extent, digital labor studies take the main intuition underlying all these pre-existing fields of research (namely that occupational culture is moving away from workplace-bound wage labor and that in order to acknowledge this occurrence we need to broaden the very notion of work) and pinpoint the specific influence of pervasive computing and usage of digital/mobile technologies.

Notwithstanding the effort by social scientists to inclusively encompass added-value tasks that traditionally fell outside the scope of labor, the current debate on the racial and sexual

politics underlying big data and algorithms (White House 2016 Big Risks, Big Opportunities) has highlighted a knowledge gap in the field. The dynamics of marginalization of work on digital platforms need to be addressed both at domestic and international level. Specifically, several authors have concentrated their interest on the role of big-data architectures to perpetuate global disparities and dependencies of power, wealth, and knowledge as well as on the possibilities of correcting persistent issues brought in by the current economic and political imbalances.

The present essay aims to critically situate the authors engaged in the field of digital labor studies in relation to the current debates as to the nature and effects of globalization. In the first part, I will circumscribe the object of digital labor. By looking at diverse platforms such as on-demand services, crowd-work, social media, and smart objects, I will assess the existing ecosystems through which value is created, appropriated, and distributed today. Subsequently, I will look at recent changes in both empirical and theoretical orientations of digital labor research. Initially construed as a Western-bound field of studies, its expansion beyond English-speaking countries has determined the need to diversify its theoretical approaches. In this sense, the very use in the context of this paper of notions such as “colonialism”, “imperialism”, or “slavery” are to be intended in a critical and questioning way, helping to appreciate the effort of digital labor scholars to conjure up terms and postures that allow to complexify Western academic categories.

1. Circumscribing the object of digital labor studies

1.1. The platform paradigm and the emergence of digital labor

While linked to the wider debate about the “end of work” that originated in the mid-1990s (Rifkin 1995), digital labor as a topic of study does not claim the extinction of work, but ra-

ther its omnipresence. Today, work manifests itself in the workplace as well as in digitally connected spaces of socialization, relationship-building, and leisure. This apparent inconsistency can be explained as a transition from a firm mode of production based on formal employment to a platform one based on implicit labor. Firms used to be thought as structurally opposed to markets (Williamson 1975): the former were characterized as hierarchical, top-down devices for the coordination of material, informational, and human resources (i.e. formally subordinated workers); the latter were construed as horizontal and bottom-up processes where agents were formally independent. Present-day platforms blur these distinctions and offer alternative modes of coordination where both vertical and horizontal networks and processes are simultaneously in place.

As a consequence, what is at stake here is not the disappearance of work, but the disappearance of the classical structure of the firm (Coase 1937). Platforms are not simply digital-enhanced businesses, but coordinating mechanisms that match supply and demand algorithmically (Evans 2011; Benavent 2016). They arbitrate the differing interests of multiple constituencies (consumers, producers, suppliers, audiences...) (Gillespie, 2008), acting as intermediary organizations lying half-way between markets and firms: like markets they synchronize independent actors; like firms, they rely on capital and labor to extract value and to limit risk. Productive activity does not occur only inside the firm, but in wider ecosystems where formal organizations link up with startups, independent contractors, distribution networks, innovation hubs, and communities of users/consumers in a constant regime of “constrained implication” (Durand 2004). The social actors populating such ecosystems provide the implicit labor (often indistinguishable from consumption, interaction, training, intelligence, etc.) which, on internet platforms, takes the name of digital labor.

As traditional firms are being overcome by the new platform paradigm and formal employment is eclipsed by the rise of ICT-mediated implicit labor, scholars are debating the prime-

ter of digital labor studies. Constructing the object of the field does not only mean selecting the socio-cultural usages that constitute the targets of empirical research, but also identifying the theoretical stakes and the methods that demarcate what is actually studied and what is excluded (Sterne 2003). This process takes place along lines of fracture and tensions as to what actually constitutes work and what does not. Difficulties stem from the diverse backgrounds of the academic currents involved. Researchers' approaches and goals vary, depending on whether they situate themselves within the broader framework of the study of the "digital transformation" of contemporary economies, or focus on the tensions underlying labor markets, or are interested in internet cultures and online participation."¹

1.2. Four technological ecosystems for digital labor

Given this diversity and the intrinsic dynamism of researches touching on technological innovation, a descriptive typology will help to identify and fix processes, experiences, and environments encompassed by digital labor. The one that follows outlines four socio-technical ecosystems ordered by degrees of conflictuality, recognition of labor, and different modes of remunerations.

1. On-demand platforms

The first socio-technical ecosystem where digital labor can be observed is the one embodied by on-demand platforms. Based on mobile apps and technologies allocating material and informational resources in real time, they connect customers with independent good or service providers. The example of Uber is emblematic in the urban transportation industry, while others have imposed themselves in sectors as diverse as food delivery (Deliveroo), cleaning and handyman work (Taskrabbit), hospitality (Airbnb) etc. On-demand apps are extremely reliant

¹ Non-academic actors have themselves come up with specific definitions of digital labor, mainly focusing on business robotics and process automation (Manyika et al. 2015).

on material human labor, whether direct (one category of users actually performing physical tasks: driving, delivering, cleaning, cooking...) or indirect (one category of users affording an asset: apartment, car, equipment...). Specialized roles have emerged (passengers/drivers, food-providers/diners, hosts/guests), thereby undermining the earlier characterization of on-demand apps as “sharing economy” where all users participate equally. In this context, platform owners impose the status of independent contractors, entrepreneurs, or free-lance on the millions of people working on-demand around the world, thus raising issues of insecure working conditions, lack of guarantees and income volatility.

These platforms have experienced a high degree of conflictuality related to the implementation of labor standards and rights. In several cases, legal actions for workers’ requalification and collective action through unions have often been successful, sometimes threatening business models based on denial of wages or employee benefits (Huet 2015; Goodley 2016; Levine 2016). Such struggles point out that part of the work performed on these platforms is in the process of being recognized and remunerated at its actual value and according to fair standards. Yet, on-demand online services are still far from recognizing another type of productive activity, i.e. the “immaterial” labor performed by all users equally, of investing attention and know-how into the online app. Analyzing the case of Uber, Rosenblat & Stark (2016) present several tasks required from drivers and riders alike to be allowed access to the platform: drivers have to spend time updating their profile pic, double-checking GPS routes, tracking schedule on online dashboards; passengers have to send and receive messages, answer calls, rate rides, curate their own passenger score. That this part of the platform experience is crucial is demonstrated by the fact that failure to perform these tasks entails discontinuation of the service or insurmountable difficulties to access it: a passenger with a score of less than a certain threshold will have a hard time finding a car at 3am, a driver with a low rating or with inappropriate online behavior will find their profile “deactivated”. The work of

“qualification-valuation” (rating, evaluating, commenting) (Callon, 2009 La formulation marchande des biens [The Market formulation of Goods]) is actually a major component of the work in the Uber workforce.

2. *Micro-work platforms*

The second social technical ecosystem where digital labor has arisen is micro-work, i.e. online crowdsourcing services allowing recruiters to get in touch with workers mainly to perform small repetitive and often unskilled tasks. These activities are also known as human-based computation: organizing playlists of music, tagging videos and images, writing, transcribing or translating short texts, are standardized assignments that can be easily performed by a crowd of non-specialized users, and are extremely useful to calibrate and train artificial intelligence software (Irani 2015). Amazon Mechanical Turk is probably the most prominent and high-profile example of a platform for micro-tasks, even though its half a million-strong “turkers” workforce is small by comparison to its competitors, whose users can in some cases add up to over ten millions. The name of the service is borrowed from Von Kempelen’s Chess-playing automaton, an eighteenth century device which was actually operated by a hidden human agent: an apt metaphor for a digital system that puts human labor in the back office and produces distributed computing.

Micro-workers’ compensations are stated in a pay slip where all the tasks performed are detailed, with payments as little as \$.01 (“penny tasks”). The median hourly rate on Amazon Mechanical Turk is about \$1.38 (Horton & Chilton, 2010) – way below US minimum wage. Tensions around remuneration and labor standards emerge here too. The effort of micro-workers to organize, and ensure protection of their rights, have originated several initiatives ranging from grassroots software tools to review and rate recruiters (Turkopticon 2014), to the creation of a quasi-union (Dynamo 2014) and even the launch of dedicated online services

aimed to raise awareness of exploitation of platform workers, like FairCrowdwork, an online monitoring system designed by Europe's largest trade union IG Metall (2015).

Although services falling in this socio-technical ecosystem mimic traditional work, there is a significant difference: gamification is king (Feyisetan et al. 2015). Despite their usefulness for selecting, curating, editing and sorting data and contents, many of the online tasks performed by micro-workers display remarkable similarity with online leisure-oriented behaviors. Watching videos, browsing through images, exchanging messages, sharing contents do not differ much from the everyday experience of a typical internet user. Micro-work qualifies as implicit digital labor because it blurs the lines between fun, sociability, and actual production of value.

In this perspective, what is achieved on platforms such as Amazon Mechanical Turk mirrors what any Google user performs whenever typing a query in a search engine, or when answering a reCAPTCHA test. Any word or sentence typed in teaches the Google search engine algorithm or the Google Books character recognition software to detect that word or sentence. Any suggestion provided to Google Translate, help improving the corporate service. One step towards the recognition of this user involvement as actual labor has been taken by Alphabet in August 2016, with the launch of Google's own micro-work app, Crowdsourcing, where users perform the same tasks (translation, text and image recognition, etc). This, too, is human-based computation, obtained via micro-tasks which in the long run, will bridge the gap between computer processing and human judgement (Irani 2016). The main difference between the tasks performed by CAPTCHAs users all around the world and the growing number of users of micro-work platforms such as Amazon Mechanical Turk, is that the former qualify as unpaid digital labor, whereas the latter are micro-paid digital labor.

3. *Online social platforms*

The above remarks introduce the third socio-technical ecosystem. At the center of the “social turn” of the web of the 2000s, social media and networking platforms are based on networked communities of producers and consumers who establish ties of sociability with one another through exchange of cultural products such as texts, videos, and music, as well as advice, support, and knowledge. Earlier luddite critics of the social web (Carr 2006; Lanier 2011) denounced the corporate “sharecropping” of amateur online contributions as the symptom of a forced collectivization of individual contributions, going so far as to decry the advent of a “digital Maoism”. Digital labor studies distance themselves from these authors because they point out that the opposite concern is true: that social fragmentation and capitalist accumulation results from the capture of collective value via the enclosure of digital commons and the commodification of lifestyles and multitudinous creativity (Moulier-Boutang, 2010; Fumagalli 2015). On social platforms, digital labor conventionally manifests itself in unpaid activities performed by users, so that allow online services extract profits from every social media post, every gaming session, every comment, every multi-media sequence. Insofar as “both social media and the factory are products of capitalism and are, ultimately, adapted to its purposes” (Rey 2012: 401), it is not unreasonable to demand some sort of compensation for user-generated contents (Jung 2014).

These claims have fueled debates as to the possibility of qualifying as actual work activities whose nature appears voluntary and playful (Cardon & Casilli, *op. cit.*). Social media usage is far from the alienation and burden which characterize the other digital labor ecosystems (Fisher 2012), and rely on a distinctive blend of entertainment and work, thus conjuring up the germane notions of “weisure” (work and leisure, Conley 2008) or “playbor” (play and labor, Kürchlich 2005). But even if users convey a discourse of creativity and self-realization, over the last two decades content generation has not been immune of tensions and conflicts concerning ownership, control over production and labor standards. Legal battles for the

recognition of employment rights and royalties for content creators have concerned news websites like Huffington Post, image repositories like Flickr, video services like Youtube. Thus, a major weakness of the “hedonistic argument” against digital labor (“if users feel happy and self-actualized, online presence cannot be considered as work”) is that it only focuses on user-generated contents and chooses to overlook two other sources of profits for social platforms: users metadata and clickwork. These two forms of digital labor go largely unnoticed and hardly contribute to user satisfaction. Metadata such as timestamps, session logs, URLs, IP addresses, unique user IDs, are valuable assets that platforms monetize by selling them to advertisers, data brokers, and even governments (World Economic Forum & Bain & Company, Inc. 2011; Soghoian 2012). They add up to all the declarative information that users contribute during their online sessions, to create a thriving data economy that has been thoroughly analyzed in recent years (Acquisti 2010). For its part, clickwork revolves around invisible tasks of maintenance, selection, and promotion of information on social platforms. It can take the form of selective removal of data and contents, like in the case of commercial content moderation which consists in flagging inappropriate or suboptimal posts and images. Conversely, clickwork can also consist in favoring one content over another by intensifying exchanges and prompting viral circulation of contents, memes, buzz, etc. It can go as far as to introduce “noise” and abusive content (spam, “bot” traffic, fake profiles) (Brunton 2013; Motoyama et al. 2011). Although not consciously accounted for by users and not contributing to their self-expression and personal fulfillment these are human value-producing activities, as attested by the number of collective actions that, since the mid-1990s, have targeted major ISPs like AOL, discussion forums like Reddit, videogames platforms like Steam in order to recognize the value of the clickwork of content moderators, administrators, translators etc. (Matias 2016). Most recently, class actions have asked monetary compensation of over twelve

million euros for Facebook user data (Schrems 2014) or requested the qualification of Google's reCAPTCHA as a transcription business built upon users' free labor (Basso 2015).

Beyond their relative success, these litigations draw attention to the modalities of remuneration of users of social platforms. It is a commonplace that users do not receive compensation for posting on these services, and this would be in striking contrast to the examples of paid and micro-paid digital labor presented above. Nonetheless gratuity is actually reduced to a limited number of hegemonic platforms (Facebook, VK, Sina Weibo...) that act in a regime of quasi-monopsony and attract new users without having to provide monetary incentives. This is not the case for smaller competitors whose business model is often based on offering monetary rewards to inflate their user base. These can be prizes, discounts, and compensations, sometimes in the form of reliable money flows. One example is the US-based social platform Tsu, which remunerates every contribution going as far as to reward every new friend invited to join, up to three degrees of separation (Brown 2016).

4. *Connected objects*

The example of social platforms suggests that, when value extraction takes place, low-intensity online behaviors such as signing in, lurking, or clicking can be as valuable an asset for tech companies as content production or active participation. The fourth and final socio-technical ecosystem for digital labor is behavioral data produced by connected objects and smart environments. Admittedly still a minor subfield, the study of the extraction and monetization of data produced by sensors, home appliances, energy meters, office utilities, stores, and vehicles, has been propelled by the ongoing wave of commercial rhetoric surrounding the Internet of Things (IoT). The earlier distinction between disconnected domestic environments and ICT-equipped workplace settings (Hindus 1999) has waned since networked interactions and affordances have been infiltrating the crevices of everyday life and turning every location into a "personal data factory". This new ecosystem upsets the balance between the 'Internet of

publication' (content intentionally put online or shared by users) and the 'Internet of emission' (data and metadata transmitted by connected devices) (Casilli 2015). Data emission largely happens by default, on an opt-out basis, and its commercial profitability for tech companies takes in little or no account individual self-determination and ownership of appropriated personal information. Frictionless extraction of these data and insistence on their "automatic" production conceals users' contribution and overlook their digital labor. Switching on, wearing, updating a connected object; inhabiting and operating a smart house: these are all preconditions to the emission of IoT data.

Not unlike social platforms, the recognition of digital labor embedded in the IoT is still wanting, both on the legal and academic fronts. Another similarity between the two ecosystems is the clichéd idea that worker status for users cannot be claimed since IoT platforms do not reward them. However, once again several examples of connected objects paying their users exist: from apps remunerating geolocation data in bitcoins (e.g. Bitwalk), to connected objects providing monetary incentives for health and fitness data (so-called P4P systems), to company-specific wearable devices entailing benefits, pay raises, and bonuses in relation to performance tracking for productivity or insurance purposes (e.g. Fitbit). In this case too, the "hedonistic argument" has been raised: if users perceive these technologies as driven by self-actualization and conviviality, how can they be likened to work? While examining self-tracking connected devices, Lupton (2014) defuses this argument by calling attention to the coexistence of different and often conflicting rationales for using data emission technologies: users who have chosen to use these technologies display a high level of agency and self-determination, but this is not the case for those who are nudged, obliged or coerced into using the same technologies in relation to managerial and commercial imperatives. Private and communal rationales for self-tracking have to contend with regimes centered upon obligation and exploitation.

1.3. Why does this count as work? Four criteria to pinpoint digital labor

The wide variety of examples presented in the previous pages highlights the need to identify the criteria unifying these four types of digital platform labor. Some, like the tasks performed on on-demand and micro-work platforms, are straightforwardly recognized as work (though virtually never as explicit employment) and are increasingly submitted to the economic and legal framework of traditional labor. Others, like the usage of social platforms and connected objects, still largely escape legal regulation and are exposed to the risk of being misrecognized exclusively as leisure and expressivity, thus overlooking the obligations and the specific normative status they entail for the users and the outcomes of their networked activities.

In view of the examples analyzed *supra*, the following criteria help identify digital labor.

1) digital labor designates *user-performed tasks that produce wealth* for platforms: whether these tasks consist in running chores for an on-demand app, or train algorithms via micro-work services, or producing contents and data monetized by advertisers, health insurances, or brokers, they all point towards an economic system where user contribution is central;

2) user-performed tasks are *contractually compliant*: even though many of these activities are not presented as work (but rather as sharing, play, sociability...), they are defined and bound by legal obligations stated in documents such as terms of service. Such arrangements may not take the form of employment contracts, but they allocate roles and responsibilities (driver/rider, requester/turker, advertiser/audience member), bind to certain production benchmarks (acceptable community standards, laws and regulations of a certain country), and most importantly, determine the modes of capture and distribution of value by the platform (who are the final owners of the content or data and under which circumstances they can be monetized) (Van Dijck 2009);

3) digital labor *tasks undergo performance measurement*: gamification and leisureliness notwithstanding, human activities on platforms cannot be construed as uncompelled, unproductive, or not submitted to standards. Scores, rankings, reputation ratings, stars, number of followers, friends, likes etc. are collected and analyzed to evaluate if users' output is in line with the commercial and technical goals of the platform (Kokkodis & Ipeiritis, 2015);

4) digital labor is framed in *technological para-subordination*: several European legislations recognize as “para-subordinate work arrangements” all low-cost substitutes for employment where “dependent self-employed” individuals perform business-integrated working activities in the interests of a principal employer in a continuous and coordinated manner (Antonmattei & Sciberras 2008). A recent ILO report applies this legal framework to apps or platforms where, by the simple act of signing in, users are “subject to far-reaching control and invasive monitoring of [their] performance, similar to those who are applicable upon traditional employees” (De Stefano 2015: 32). Micromanagement of user behavior is an essential element of control over their performance, via proprietary architectures (interfaces, apps, algorithms) or via just-in-time warnings that handle digital tasks to users (notifications, invitations, alerts; Licoppe 2009).

One final remark concerns the issue of remuneration, which can best be described as a spectrum on the different scenarios examined so far: unpaid, underpaid, and micro-paid. Despite the foundational early characterization of digital labor as free labor (Terranova *op. cit.*), it is urgent to acknowledge that gratuity is not a qualifying criterion. The number of labor and employment lawsuits that have targeted tech companies in the last few years, as well as the wave of industrial actions, strikes and boycotts that are increasingly taking place locally, confirm the intensification of tensions questioning the “free” (both independent and gratuitous) status of these online activities.

2. Digital labor studies go global

2.1. Scaling up digital labor

After the establishment of the body of literature and empirical research examined so far, new avenues have opened up and fresh perspectives have developed on issues such as race, global inequalities, and international relations. Despite the initial embeddedness of digital labor studies in a Western-centered academic milieu, recent scientific production emphasizes the need to disentangle the field from what can be perceived as “First World concerns” such as play, creativity, fandom, exploration, or participation. The goal is to acknowledge the work of “marginal” subjects (women, the urban poor, minorities) both in the global North and in the global South, as well as the internet’s uneven geographies in the international division of labor (Graham et al. 2014) as central elements of platform economies. These new trends shift the attention to the material dimension of the manufacturing of data, services, and content. They underline the continuities between the structural elements of “immaterial” digital labor and everyday working conditions of multitudes of nameless clickfarmers, content moderators, and offshore online workers whose occupational opportunities transition from traditional factory, agricultural, extraction work, and vulnerable self-employment to internet-mediated precarious on-demand jobs (Maxwell 2015).

2.2. Intersectional digital labor: working on the global margins

The first challenge digital labor studies have been confronted with is intersectionality. The Marxist perspective which dominated earlier research in the field, shaped by the Italian post-operaist immaterial labor approach, was not incompatible with feminist theory and gender studies. Yet some authors have stressed that there has been relatively little attention to the gendered dimensions of digital labor (Brooke Erin Duffy 2015), and were quick to highlight

the elements of care in service-oriented platform economies and the emphasis on affective skills as tools to understand digital labor in relation to the “feminization of work” (Arcy, 2016). In the meantime, significant contributions have crossed gender and critical race theory to examine vernacular user-generated contents in multimedia platforms, like bedroom dance videos or webcam fashion rants by young black girls, raising issues of commercial media appropriating minors’ content and banking on them with little or no concern for ethical or economic implications (Gaunt, 2015).

The main limitation of these approaches lies in their almost exclusive focus on contents. As far as they limit themselves to social media as hubs of production of expressive and cultural labor—and sites of reproduction of problematic gender relations—only one aspect of digital labor is taken into account. Scholar Lisa Nakamura (Nakamura 2016) has criticized this bias towards content as an obstacle to recognizing other more common forms of digital labor. It is by tracing the history of the activism of women of color on the Internet that underpaid or unpaid online community administration work, microwork, and personal service work can become the object of academic scrutiny. Internet moderation in particular attracts ambitious research programs, such as the one initiated by Sarah T. Roberts (2016). Performed by a globally dispersed workforce made up of relatively low-status workers who almost always operate in secret for low wages, commercial content moderation consists in reviewing digital images, videos and text exchanges that may be pornographic, violent, or otherwise inappropriate. But these less creative, more distressing, repetitive tasks are associated to other types of jobs: data janitors, click farmers, gold farmers, etc. To the extent that these occupations tend to be prevalent between women and minorities, the persons who perform them are prone to be figured as disenfranchised or unwanted “guest workers” (Nakamura 2009). These workers “on the margins” bear the burden of matching the demand for non-specialized, unskilled, underpaid/free labor in contemporary economies. Their characterization resonates with Marxist

“reserve army of labor” of underemployed or unemployed workers, but has to be intended as conceptually linked to specific categories of “disposable” workers such as women, the homeless, prison inmates, and people of color with a history of unfree labor. However, in the present context of global connectivity, these reserve laborers are spatially hidden and consigned to out of the way places, where capitalist dynamics conceal the mechanisms through which race and gender operate as a key aspects of digital platform production (Nakamura 2014).

These backoffice digital tasks are mainly concentrated in segregated sectors of the Western labor markets and in non-Western countries. Recent examples of digital platforms leveraging gender, class, and race disparities to extract unpaid/underpaid digital labor help us appreciate the global scale of this “surplus population”. Some micro-work marketplaces such as Mobileworks actually pride themselves with putting to work “underemployed communities in the U.S. and around the world” (2016 <https://www.mobileworks.com/>). Prison labor programs in the US include now data entry, proofreading, and document preparation (Carmel, Lacity & Rottman 2014), just like Chinese inmates “forced into gold farming” in massive online games prominently featured in the media (Vincent 2011). Even when users are formally free, platforms mimic the language of penal labor by promising offshoring Western companies that their micro-work will be performed by “virtual captives” (as candidly claimed by the Philippines-based platform MicroSourcing 2015).

Surveys on online outsourcing (such as Imaizumi et al. 2015) confirm the overlapping of racialized and gendered marginality and internet-based labor in the global South. Even services like Amazon Mechanical Turk, which stopped accepting new applications from international turkers and are mainly composed of US, still has as sizeable proportion of Indian users, a vast majority of whom identify as women (Ipeirotis 2010). The political economies and cultural meaning of online micro-work change from country to country (Yin et al. 2016). Significant inequalities in compensations and job availability are prevalent in these services, where non-

US-based crowdworkers are affected by differentials in internet connectivity, time-zones, language, security, and pay mechanisms. Conscious of these global asymmetries, digital platform users acknowledge lack of transparency and interiorize concerns about global markets by construing their activity as a “global digital sweatshop”, mirroring other relatively low status occupations such as sex work, fast-food work, or agricultural and farming jobs (Kingsley, Gray & Suri 2015; Martin et al. 2016).

2.3. Surplus labor on the global market

Interpreting platform labor through the lens of prison/forced labor or emphasizing its similarities with the sweatshop system are useful to apprehend it as a global phenomenon. But they may lead to believe that digital labor is residual and covert by nature, happening, so to speak, on the sidelines of present-day markets. On the contrary, it stands at the very center of them: it being on the margins does not mean it is insubstantial, but exposes a general trend in the global workforce towards “becoming marginal”—and vulnerable to the predatory value-extraction platforms carry out.

Platforms are an actual labor market with large numbers of individuals virtually excluded from formal employment and consigned to flexible and unstable working conditions. High-profile companies like Uber, Taskrabbit or Amazon Mechanical Turk only account for less than a million workers altogether, but credible estimates (Steinmetz 2016) indicate that 131.5 million US adult citizens have provided digital labor by offering services or at least using on-demand platforms. Smith & Leberstein (2015) report 6.6 million independent workers on care.com, 8 million freelancers on Crowdsourcing.com and 5 million on Crowdfunder. Micro-work and online crowdsourcing services, sport equally staggering figures. California-based Upwork hosts a user base of over 10 million users, while competitors like Freelancer.com have more than 18 million (Wahal, 2016). In the Chinese market, platforms for service- and

knowledge-sharing take the name witkey (威客), and their recorded users are estimated at more than 7 million for Witmart, 3.2 million for Taskcn, over 3 million for Epweike (Carmel, Hou & Olsen 2012). Even without taking into account the billion-odd users of popular networking and content-sharing platforms, these digital laborers are easily recognizable as the backbone of the data-production and clickwork economy that nourishes internet economy. The “surplus population” is more likely to provide exploited and underpaid/unpaid contributions. It is the leading edge of the global workforce that the formal employment is not willing to absorb.

We cannot understand digital labor without mapping globalized labor markets. Statistics indicate that only half of the World’s labor force is formally employed, a rate that drops to 20% in South-East Asia and in Sub-Saharan Africa. Developing economies (and to a lesser extent, emergent ones) provided the majority of the 26 million who joined the ranks of the active population in 2015, but they do not enjoy employment protection in terms of remuneration standards, benefits, safeguards against dismissal, regulation of temporary work (ILO 2016). Worldwide, high unemployment rate and pervasive casualization also go hand in hand with poor job quality. The share of own account work and unpaid family work contribute to the rise of a vulnerable workforce, typically operating at high levels of precariousness, concerning over 46 per cent of the active population and mainly located in Central Africa, South-East Asia and Equatorial South America. Individuals in situations of vulnerable employment are massively exposed to earnings volatility.

Social protection represents an issue, especially in developing countries and in transition economies, where it relies heavily on employer contributions. If employers elude regulation, and in cases of self- or family-employment, access to contributory social protection schemes is limited or non-existent—unless governments step in. Unfortunately most African and South-Asian countries have no scheme anchored in legislation. For women and men of work-

ing age, the distribution of unemployment schemes worldwide in 2012/13 reproduces customary inequalities, and in some cases only relies on individual savings. Emerging countries like China and India are in no better position, as unemployment protection schemes concern less than one-third of their labor force (ILO 2014).

This new breed of global workers thus experience the confusing situation of both being in the workforce and being regarded as the leftovers of the global economy, drifting away from visibility and excluded from the welfare benefits and career security usually associated with dependent work, reduced to contingent and underpaid jobs to maintain their standards of living. To this vulnerable workforce, platform labor is often presented as a panacea. In countries like the Philippines, Bangladesh, India, Vietnam, Malaysia, Nigeria, Kenya etc. technologically-mediated labor is presented as the best and only possible “future of work”. Optimism surrounds the potential of on-demand services, micro-work, click or content farms to provide new opportunities for them. “Taskified” jobs (Gray 2016) dispatched by digital websites or apps are accompanied by a rhetoric of liberation from workplace obligations, long hours, expensive commuting. “Working at one’s own pace”, “having no boss”, “being entrepreneurial” are long-term ideological mantras, using flexibility as a rhetorical device to conceal the increasing elusion of minimum wage legislations, piecework, and lack of job security.

Since internet-mediated allocation of tasks crosses national boundaries, these global labor dynamics turn traditional geographies upside down (Foster & Graham 2016). If in the past century a situated, deep-rooted workforce supplying labor was facing an unstable, always-moving capital demanding labor, in a digital platform economy “labor demand is geographically concentrated, labor supply is geographically diffused” (Graham et al. 2016). This is best attested by looking at data flows between the global South and the global North as credible proxies of this labor/capital asymmetric relation.

This is best attested by looking at data flows between the global South and the global North, which are serviceable proxies of this labor/capital asymmetric relation. By looking at 60,000 anonymized transactions completed on Upwork (then branded oDesk), researchers at the Oxford Internet Institute have outlined the patterns of an international division of platform labor. Countries where data and tasks are more bought than sold, i.e. where the digital labor demand balance is positive, are situated in North America, Europe, and Australia. The balance is negative in the global South, which supplies labor for the North. In this study, international clicks, tasks, content, and data are largely traded from India and the Philippines selling to the United States, Australia, Canada, and the United Kingdom (Lehdonvirta et al. 2014).

The landscape of platform economy is irregular, polarized, with discernable hubs specialized in buying and selling labor. These geographical relationships replicate political and historical patterns of domination, affecting users in different ways depending on their location. In developing and emerging countries, internet-mediated production fall largely outside regulatory frameworks. This leads to workers' loss of bargaining power, to workers' underbidding, and to dangerous race to the bottom dynamics. The "opportunities" promised by digital platforms result in ever-increasing unpaid/underpaid value extraction from individual users who find themselves exposed to market volatility. In particular, it is uncertain how direct connection between requesters of tasks and providers of digital labor impact this global scenario. On the one side, it can be maintained that one-to-one communication on platforms would empower users in developing countries by putting them on an equal footing with their counterparts in the global North. But recent evidence point out the persistence of local hierarchies where gatekeepers "reintermediate" the process of matching supply and demand. Network dynamics known as "local lengthening" (when platform "power users" centralize tasks locally and pass them on to other users who act as subcontractors) create long value chains, of which an increasing number of users in developing countries are the "last links" (Lehdonvirta et al.

2015). The loss of bargaining power and job insecurity are thus intensified by the opacity of this global value-extraction chain, where users ignore who they are performing digital tasks for and have no benchmarks to assess their conditions (remuneration, protection, standards, etc.).

3. Discussion: a conceptual framework for global labor struggles

The examples discussed so far are very diverse, spanning different platforms, usages, cultures and locations. The worldwide phenomenon they are meant to demarcate, although significant and sizeable, is still slow to emerge from invisibility. Global dependencies are increasingly interpreted through a theoretical categories that draw abundantly, albeit loosely, from postcolonial studies. High-profile international controversies, such as Facebook's unsuccessful lobbying of Indian telecommunication authorities in the mid-2010s, and other tech marketing initiatives targeting emerging and developing countries, have been portrayed as neo-colonial dominance (LaFrance 2016). Unquestionably, overinflated promises of strong growth in exchange for economic dependence or the promotion of neoliberal values of flexibility, entrepreneurship, or "labor futurism", implement specific historical narratives that serve Western interests. Without denying the unmistakable economic strategies and the unconcealed efforts to overcome local regulation in developing countries to serve the interests of Western platforms, the extent to which this is a manifestation of "colonialism" is still debatable. That is because this notion involves not only a change of scale, but also a change of theoretical pace, so to speak. If digital labor studies have been so far dominated by approaches which best describe local conflicts (like exploitation and alienation), the notion of colonialism escalates conflictual and critical stances by disrupting the very object of study, dividing it, and reconfiguring it in an all but unproblematic manner.

3.1. Digital colonialism (and germane notions)

How has the term colonialism come to be deployed in the academic context in relation to digital technologies? Firstly, as a metaphor for the introduction of processes of capitalistic governmentality proper to the platform economy. Casati, for instance, calls digital colonialism the “automatic normativity” introduced by tech companies, i.e. the ideological belief that a networked society requires technological mediation of every aspect of human life. Colonialism in this case describes a set of aggressive policies and discretionary economic decisions rooted in technological determinism (Casati 2013). While addressing the cultural hegemony of tech companies, Casati does not linger on the specific organizational settings, business models, and value chains of digital labor-intensive platforms. But he points out the necessity to escape the rule of data extraction when he calls for the creation of sanctuaries against online tracking, and maintains that crucial sectors (such as education and democratic deliberation) should be preserved from the tensions and injustices deriving from economic imperatives. Kleiner (2016) uses “digital colonization” to describe the transition from an “original” decentralized world-wide internet of independent nodes and communities, towards an enclosed and centralized telecommunication network subjugated by oligopolistic corporate entities. The predatory strategies of present-day platforms re-intermediate and homogenize not only commodities, but also the norms, standards, and usages providing context for the commodities.

Clearly, these analyses leverage the shock value of neocolonial rhetorics and concepts, but their effectiveness as tools to address global dependencies is doubtful—especially when germane notions such as imperialism and slavery are used to designate transnational movements of capital, labor, and culture.

The revival of the 1980s approach of the New International Division of Labor (NIDL) has prompted interest in the conceptual toolkit of imperialism to examine how developing countries have become sources of cheap digital labor for multinational corporations (Fuchs, 2016). The proliferation of digital platforms has coincided with the debt and financial crisis of the late 2000s, in a situation marked by high unemployment, stagnating wages, and fading benefits for workers, with a world-wide trend to higher poverty and inequality. Tech companies and traditional multinationals join forces by adopting a platform paradigm that drives down the global wage share and increases their profits through a “strategy of divide and rule”. Pointed out by digital labor scholars exploring local fieldworks (Woodcock 2014), workforce fragmentation is a basis for an imperial enterprise that links up material and immaterial labor worldwide. Digital labor studies have constantly emphasized the role of the service sector as the core of the digital economy. Yet according to Fuchs, it is the continuing exploitation of traditional manufacturing, agricultural work and extraction of minerals processed into high-tech components, that enables the distribution, circulation, and consumption of diverse types of information. The asymmetrical geographies of these different economic sectors allow the deployment of imperialism’s key features via the creation of dependencies and imbalances of wealth and power between the global North and South. Fuch’s main conclusion is that digital labor not only conveys production of online content and data, but “is a category that rather encompasses the whole mode of digital production, a network of agricultural, industrial and informational labor that enables the existence and use of digital media. (...) Today most of these digital relations of production are shaped by wage labor, slave labor, unpaid labor, precarious labor, and freelance labor, making the international division of digital labor a vast and complex network of interconnected, global processes of exploitation”. (Fuchs, *ibid.*)

Jack Linchuan Qiu also adopts an international trade approach that is attentive to the interplay of different sectors of the economy. He describes an “ICT-based class-making process”

(Qiu 2009 : 5) based on the relative decline of the primary sector, as the majority of the Chinese population has moved from agriculture to industrial and services sectors in recent decades. In this view, digital labor results from the combination of “simplified skilled tasks in the new information industry” through platforms, and of traditional factory labor. Both need to be investigated to understand “working-class network society” in China as well as in other emerging countries. -Building on a survey of the world's largest electronics manufacturer Foxconn in Taiwan, he highlighted workers’ human rights abuses. The sheer size of factory complexes and the span of global markets conjugate with harsh work discipline, which is explicit in the case of factory workers in emerging countries and takes a life toll in terms of pervasive health problems and annual suicide rates. But this violence casts a shadow on digital laborers in Western countries and obtains the aggregate effect of scaring the worldwide digital workforce into subordination. Defining oppression—with the somewhat tacky term of “iSlavery”, and stressing parallels with the Atlantic slave trade, Qiu denounces the international collusion between corporations and governments to build systems of domination, exploitation, and economic dependency. Network society is thus built upon slavery: in the global production chain, even high added value activities such as innovation and marketing rely heavily on the participation of platform users as unconscious brand ambassadors or as bottom-up innovators whose creativity is crowdsourced. Costs are further reduced in the middle of the chain, where traditional factory labor is located, thereby producing an explosion of unfree and underpaid labor at every level of the global economy. The political project of opening up an avenue for emancipation of workers both in Western countries and in the global South explains the interest in joining the radical “digital abolitionist” agenda that Qiu promotes (Qiu 2016).

3.2. The pitfalls of interpreting global digital labor as colonialism

The arguments underpinning these positions are exposed to three main theoretical pitfalls. The “neo-colonialism pitfall” is the idea that any form of international power relation can be conflated with neocolonial dynamics. This risks to trivialize and to de-historicize the experience of colonization, neglecting the specificities of colonial past and geographies. According to the empirical evidence already cited (Lhedonvirta et al 2014 *op. cit.*), many of the countries that were colonial empires such as France, do not score high among the demanders of cheap digital labor on online platforms. Others, like the USA, extend their dominance on countries that were traditionally outside their sphere of influence, like Pakistan or Ukraine, but have invested relatively few resources in Latin American countries—despite their history of military and economic expansionism. A deeper scrutiny of some of the distinctive features of colonialism is necessary to understand whether neo-colonial dynamics are in place: creation of Western-fashioned institutions for education, science and technology in former colonies; adoption of a colonial language and more generally replacement of existing systems of knowledge and organization of labor by Western ones; formation of distinctive “hybrid” cultures and identities of the colonized. As far as the existing literature remains silent on these subjects, little evidence supports the neo-colonialist claim.

The second difficulty is the “dualism pitfall”. Whether colonialism is intended as an evocative theoretical proposition or in actual reference to imperial power and extraction of servile labor in North-South global dynamics, analyses based on it implicitly assume that digital technologies have created an ontological separation between digital immaterial labor based on information-handling and “pre-digital” production intended exclusively as material transformation of physical environments. In the past few years, a scientific consensus has emerged against this idea, now largely considered as a fallacy perpetuating structural inequalities embedded in the essentialistic modes of interaction (Jurgenson 2011). Not only this type of onto-

logical divide has been falsified by recent research on the social and anthropological dimensions of technological innovation (Casilli 2010; Rainie & Wellman 2012), but it introduces a socio-economic split that omits the information component of traditional labor and the growth of information and media markets in emerging and developing countries.

As far as the global South cannot be reduced to the *locus* of material labor and the only provider of primary and secondary production, the third and final pitfall is “orientalism”, consisting in situating countries with a history of colonization outside change and agency. By relegating the global South into “the realm of the static”, tradition, and passivity, neo-colonial approaches to digital labor reveal paternalistic undertones. This view echoes some Heideggerian conflation of non-Western countries with *physis*, a material “standing reserve” waiting to be mined by the *techné*, to produce the immaterial information that Western countries are depositaries of. However, the Western world does not hold the monopoly of the immaterial end of digital labor, and countries in the developing world does not limit themselves to provide material inputs and semifinished products. Moreover, characterizing digital media practices in the Global South as predominantly instrumental and utilitarian fails to recognize that those dwelling at the “Bottom of the Data Pyramid” are just about as involved in creativity, online recreation and leisure—and just about as subject to mechanisms of data extraction through digital labor (Arora 2014; 2016).

3.3. A “decolonial turn” to make work visible?

A theoretical and empirical shift is necessary to disentangle digital labor studies from the contradictions of “digital colonialism”, to provide the basis to reclaim an effective critical approach to global inequalities under the economic platform paradigm. A perhaps unexpected way forward comes from a concept usually associated with postcolonial studies: the notion of coloniality. While colonialism denotes the political and economic sovereignty of an

empire over a colony, according to Maldonado-Torres (2007) “coloniality, instead, refers to long-standing patterns of power that emerged as a result of colonialism, but that define culture, labor, intersubjective relations, and knowledge production well beyond the strict limits of colonial administrations” (Maldonado-Torres 2007). Coloniality is both a consequence of colonialism and an autonomous process that outlives and manifests itself independently, notably through norms, collective identities of peoples, or individual aspirations. Insofar as modern subjects “breathe coloniality all the time and everyday”, they also share specific existential traits that Maldonado-Torres dubs “coloniality of being” (*ibid.*). As venues to express opinions and create social ties, global digital platforms are settings where these traits can be expressed. Coloniality is thus produced via the implicit labor of technology users. It puts in place structures of control over globalized labor and its resources, not necessarily through slavery and serfdom (as claimed by the advocates of the neo-colonial approach), but by upholding systems of “small independent commodity production and reciprocity, together around and upon the basis of capital and the world market.” (Quijano 2000).

One way to tie up the critical appraisal of the colonial framing of digital labor studies and the interplay of race and labor previously discussed would be to recognize that platforms impose coloniality as an existential dimension for users in both Western and non-Western countries. Building on W. E. B. Du Bois’s notion of “color line”, it can be argued that coloniality contributes to create subjectivities by drawing “colonial lines” between human and non-human, elites and subalterns, formal and implicit labor (Wynter 2003). Coloniality is a useful theoretical framework that recounts the assumptions of dominant discourses while seeking emancipation for all marginalized identities at work—or rather, for all users/laborers that digital platforms tend to marginalize. In doing so, it serves the chief goal of digital labor studies: making invisible productive activities visible.

Indeed, bringing to light computer-mediated hidden work has been a central academic concern as well as a major axis for the development of struggles for recognition since the seminal contribution of Star and Strauss (Star & Strauss 1999). The political conflicts surrounding invisible labor, like the ones concerning today's global platforms, allow entire "arenas of voice" to emerge and link up with wider social movements. Pathways are already in place between industrial workers and implicit digital laborers so that the latter's activities no longer appear as fragmented, unskilled performances, but as a unified entity embedded in global industrial production. Now these struggles can adopt coloniality as an analytical tool to enable recognition of these still unrecognized tasks, and to implement a "digital colonial turn". Again, Maldonado-Torres maintains: "the Decolonial Turn is about making visible the invisible and about analyzing the mechanisms that produce such invisibility or distorted visibility in light of a large stock of ideas that must necessarily include the critical reflections of the 'invisible' people themselves" (*ibid.*). This is all the more true for the hidden, de-humanized labor of anonymous users who, as micro-paid clickfarmers, as content moderators and producers, or as app-based service providers, produce and circulate our commodified information and our informationalized commodities every day.

Beyond the international division of labor, we are now starting to recognize that the key issue of divisions *within* labor—its microfragmentation, its internal competition and discrepancies—must be addressed to organize collective identities through conflict and cooperation, to overcome present forms of economic and political oppression.

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